(8)

$47^\circ\ 25'\ 11''$

$\frac{11}{60} = 0.18\overline{3}'$

$25 + 0.18\overline{3} = \frac{25.18\overline{3}}{60}'$

0.419722°

47.419722°

(10)

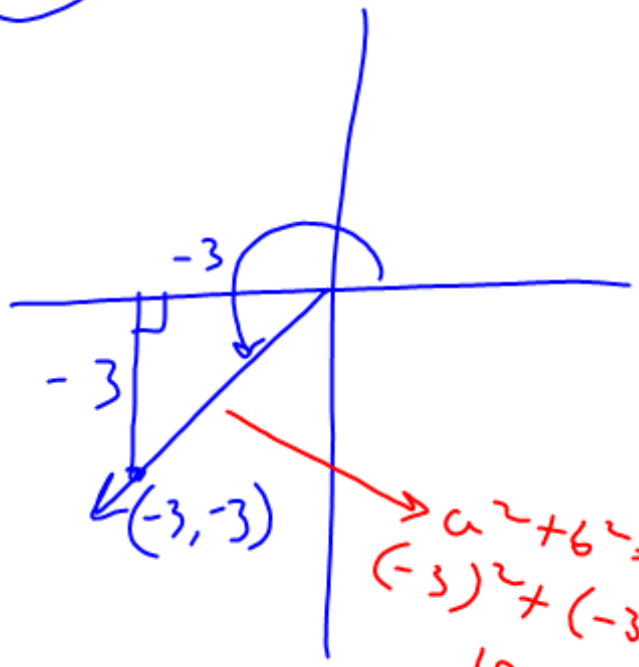
-61.5034

$-61^\circ\ 30'\ 12.24''$

$0.5034 \cdot 60 = 30.204'$

$0.204 \cdot 60 = 12.24$

24



$a^2+b^2=c^2$

$(-3)^2+(-3)^2=c^2$

$18=c^2$

$\sqrt{18}=c$

$3\sqrt{2}=c$

$\sin\theta=\frac{-3}{3\sqrt{2}}\cdot\frac{\sqrt{2}}{\sqrt{2}}=\frac{\sqrt{2}}{2}$

$\cos\theta=\frac{-3}{3\sqrt{2}}$

$\tan\theta=\frac{-3}{-3}=1$

$\csc\theta=\frac{3\sqrt{2}}{-3}=-\sqrt{2}$

$\sec\theta=\frac{3\sqrt{2}}{-3}=-\sqrt{2}$

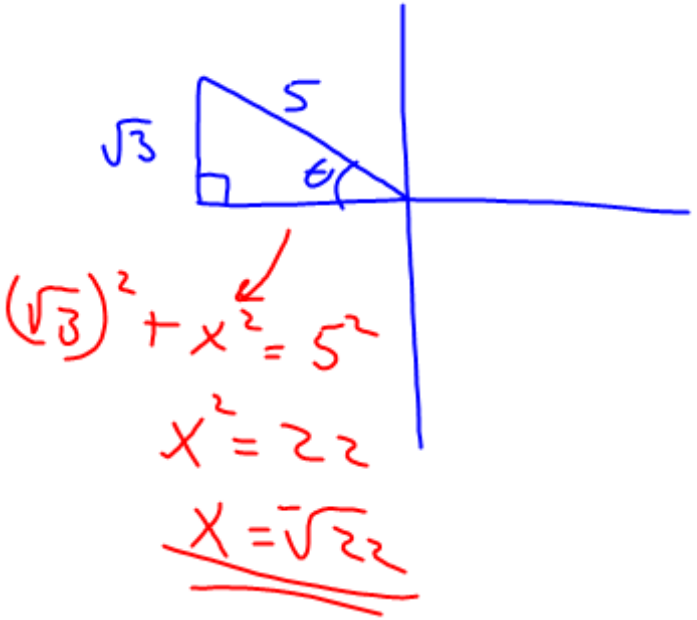
$\cot\theta=\frac{-3}{-3}=1$

$\sqrt{18}=\sqrt{9}\cdot\sqrt{2}$

$3\sqrt{2}$

40

$\sin\theta = \frac{\sqrt{3}}{5}$, $\cos\theta < 0$



$(\sqrt{3})^2 + x^2 = 5^2$

$x^2 = 22$

$x = -\sqrt{22}$

$\cos\theta = -\frac{\sqrt{22}}{5}$

$\tan\theta = \frac{\sqrt{3}}{\sqrt{22}} \cdot \frac{\sqrt{22}}{\sqrt{22}} = -\frac{\sqrt{66}}{22}$

$\csc\theta = \frac{5}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{5\sqrt{3}}{3}$

$\sec\theta = -\frac{5}{\sqrt{22}} \cdot \frac{\sqrt{22}}{\sqrt{22}} = -\frac{5\sqrt{22}}{22}$

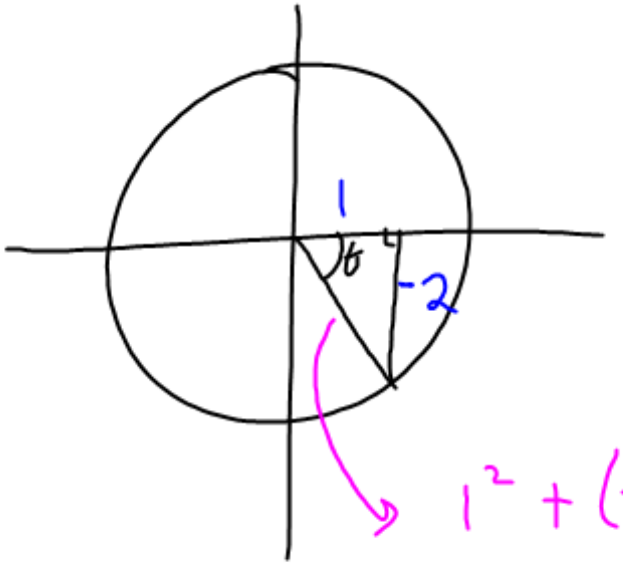
$\cot\theta = -\frac{\sqrt{22}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = -\frac{\sqrt{66}}{3}$

(57) 1.4

$\cot\theta = -\frac{1}{2} = \frac{x}{y}$

$\csc\theta = \frac{r}{y} = -\frac{\sqrt{5}}{2}$

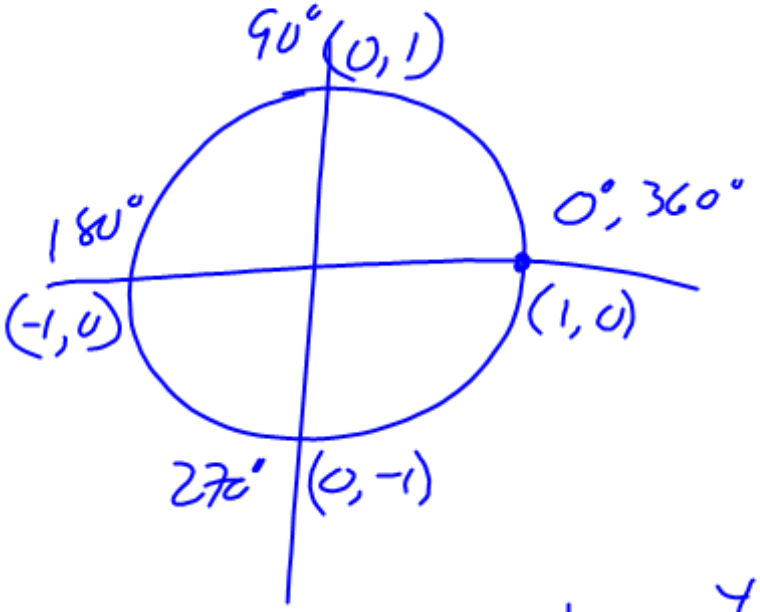
Quad IV



$1^2 + (-2)^2 = c^2$

$5 = c^2$

$\sqrt{5} = c$



$\cos\theta = x$

$\sin\theta = y$

$\tan = \frac{y}{x}$

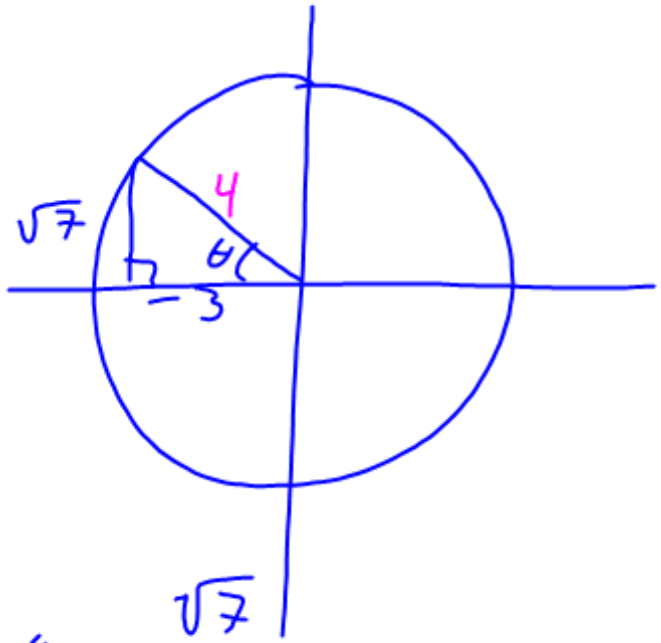
$\frac{1}{x} = \sec\theta$

$\sin 180° = 0$

$\cos 270° = 0$

$\sec 90° = \text{undef.}$

$\tan 360° = 0$



$\cos\theta = -\frac{3}{4}$

$\sin\theta = \frac{\sqrt{7}}{4}$

$\sec\theta = -\frac{4}{3}$

$\csc\theta = \frac{4}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{4\sqrt{7}}{7}$

$\cot\theta = -\frac{3}{\sqrt{7}} = -\frac{3\sqrt{7}}{7}$

$\tan\theta = -\frac{\sqrt{7}}{3}$

Quad II

$$\sin(6\theta+5^\circ) = \frac{1}{\csc(4\theta+15^\circ)}$$

$$\sin(6\theta+5) = \sin(4\theta+15)$$

$$6\theta+5 = 4\theta+15$$

$$-4\theta \qquad -4\theta$$

$$2\theta+5 = 15$$

$$-5 \quad -5$$

$$\frac{2\theta}{2} = \frac{10}{2}$$

$$\theta = 5$$

p.25 #47

$15^\circ + 75^\circ = 90^\circ$

$\sin 15^\circ = \cos 75^\circ$

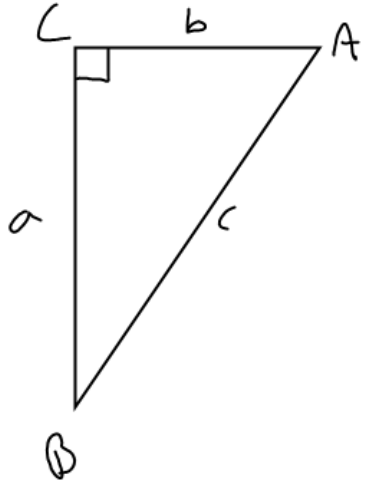
Cofunctions

$\sin A = \frac{a}{c}$

$\cos B = \frac{a}{c}$

$\sin B = \frac{b}{c}$

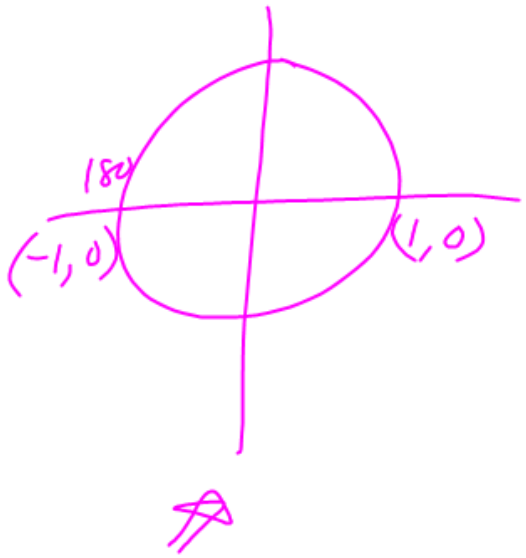
$\cos A = \frac{b}{c}$

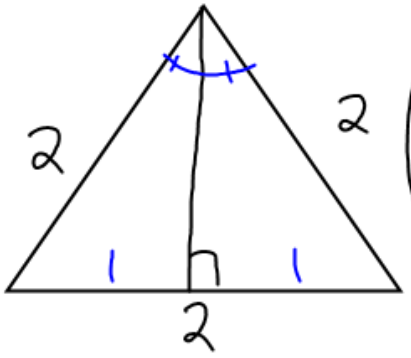


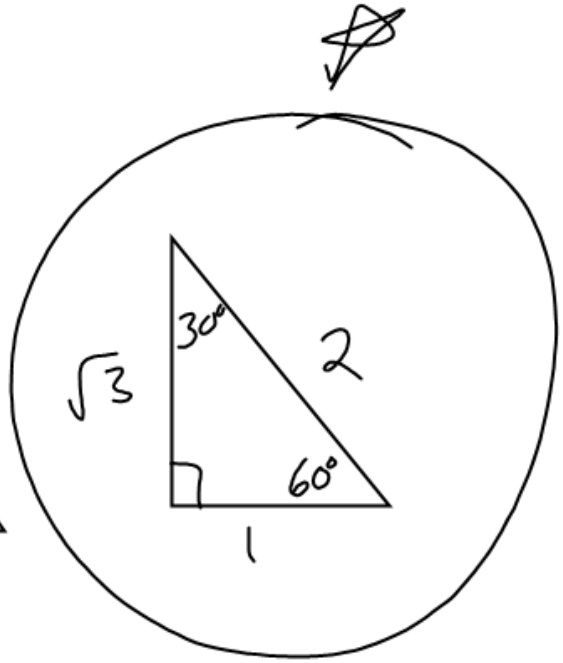
$\sin A = \cos(90 - A)$
B

$\cos(\theta + 4) = \sin(3\theta + 2)$
A B

$\theta + 4 + 3\theta + 2 = 90^\circ$



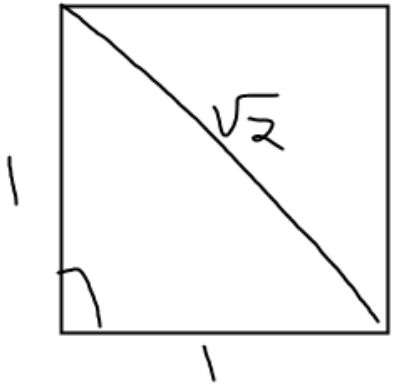


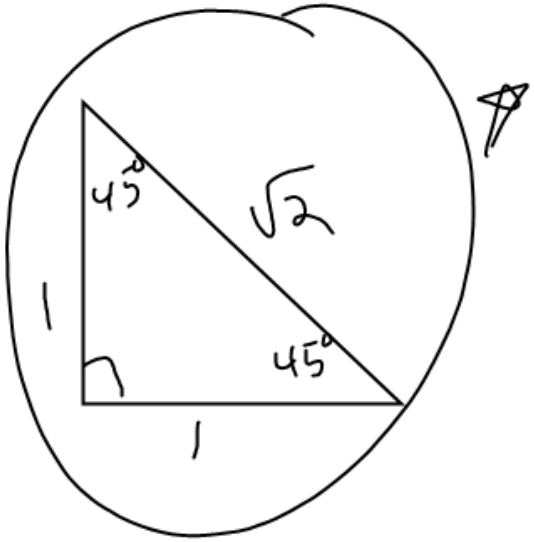


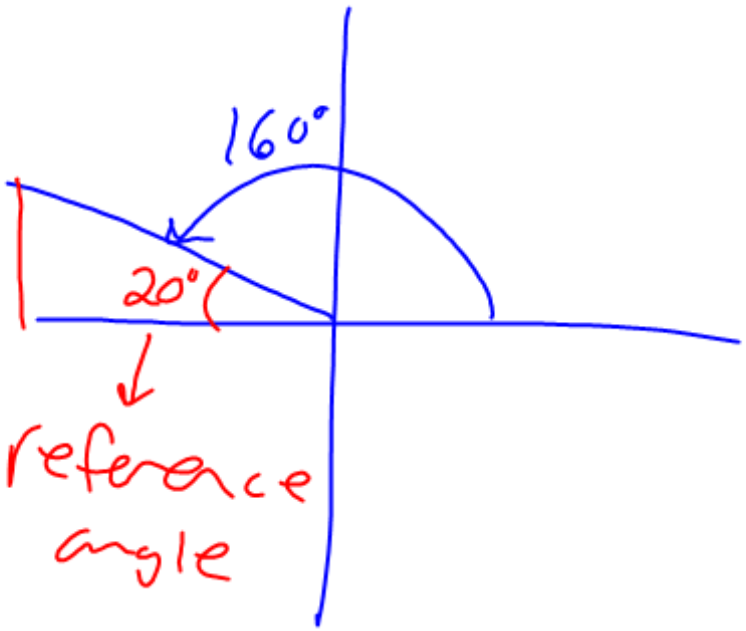
$\cos 60° = \frac{1}{2}$

$\sin 45° = \frac{1}{\sqrt{2}} \Rightarrow \frac{\sqrt{2}}{2}$

$\sin 60° = \frac{\sqrt{3}}{2}$






160°
20°
reference
angle

Sect. 2.1 # 5-10, 25, 45-52

Sect. 2.2 # 10-21, 44, 45

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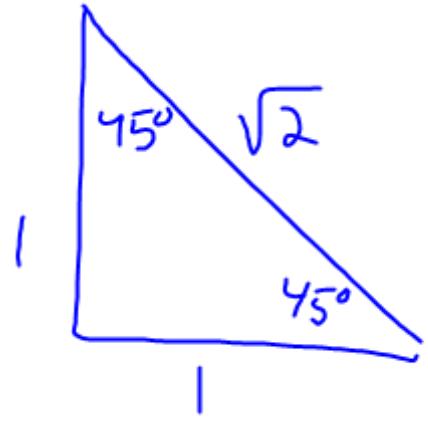

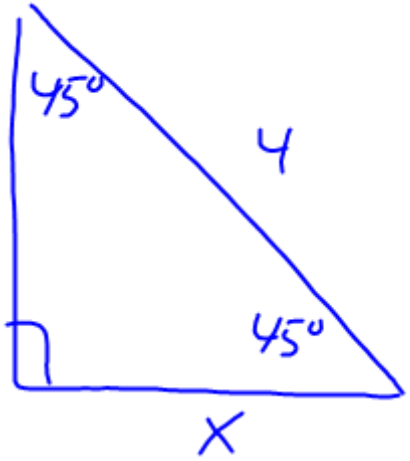

$$\frac{1}{\sqrt{2}} = \frac{x}{4}$$